

Total No. of Questions—12]

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**[3862]-224**

**S.E. (Infor. Tech.) (Second Semester) EXAMINATION, 2010**

**PROCESSOR ARCHITECTURE AND INTERFACING**

**(2008 COURSE)**

**Time : Three Hours**

**Maximum Marks : 100**

**N.B. :—** (i) Answer any *three* questions from each Section.

(ii) Answers to the two Sections should be written in separate answer-books.

(iii) Neat diagrams must be drawn wherever necessary.

(iv) Figures to the right indicate full marks.

(v) Assume suitable data, if necessary.



**SECTION I**

1. Draw the timing diagram of non-pipelined read cycle followed by pipelined, write cycle and explain. [16]

*Or*

2. (a) Explain Control register set of 80386 with their formats. [10]

(b) Give difference between 8086 and 80386. [6]

3. (a) How to generate .asm, .obj, .lst and .exe ? Give its significance. [10]

(b) Draw Interfacing diagram of 8086 with 8255 and explain. [6]

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4. (a) Draw block diagram of 8255 and explain. [10]  
(b) Explain the directives EXTRN and PUBLIC. [6]
5. (a) How to convert Logical address to Physical address in Real mode of 80386 ? Explain with example. [8]  
(b) Draw the flow chart for switching from Real mode to Protected mode and returning back to RM. (All hardware and software activities should be considered). [10]

Or

6. Explain Logical to Physical address conversion when 80386 operating in Protected Mode. Draw necessary diagrams and formats. [18]

## SECTION II

7. (a) Compare RM, VM and PM modes of 80386. [10]  
(b) Write a short note on TSS of 80386. [6]

Or

8. (a) What is Privileged Instructions ? Explain two examples of Privileged Instructions. [8]  
(b) Explain IDT of 80386 in detail with diagram and format. [8]

9. (a) Draw Internal memory organization of 8051. [8]  
(b) Explain Interrupt structure of 8051 with their priority structure. [10]

*Or*

10. (a) Draw Interfacing diagram of 8051 with  $8K \times 8$  RAM and  $16K \times 8$  EPROM. [10]  
(b) Draw 8051 functional architecture diagram. [8]

11. Explain various operating modes of Timer of 8051 microcontroller. [16]

*Or*

12. Explain various operating modes of serial communication of 8051 microcontroller. [16]

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